The Coal Situation

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SHORT-TERM OUTLOOK FOR WORLD COAL TRADE

In 1980, international coal trade occupied much of the world's attention in coal. During the year, a number of independent analyses all concluded that there would be a sustained, significant growth in the international movement of coal throughout the decade and well into the next. At the same time, however, there was considerable concern about difficulties currently being experienced in individual markets.

In the United States, strong international demand resulted in record levels of coal shipments. The increase in U.S. exports, estimated at almost 24 million tonnes, or 39 percent greater than 1979 shipments of 60 million tonnes, greatly taxed existing port facilities, resulting in ship delays of up to 45 days and heavy demurrage charges. These difficulties have brought into sharp focus concerns over the adequacy of port facilities worldwide to meet the anticipated growth in world coal demands.

In part, the growth in U.S. coal exports reflects the initial signs of the longer term potential for international trade that analysts have predicted. The surge in U.S. exports, however, also indicates the shift in trading patterns caused by consumer response to the disruption of coal supplies because of labor disputes in Australia and Poland. While the Australian disputes have been resolved, the Polish situation remains as a major market influence in the foreseeable future.

The purpose of this issue of the *Coal Situation* is to analyze the short-term outlook for world coal trade in the context of the expectations for continued supply disruption in Poland and transportation bottlenecks in other exporting areas.

Polish Coal Update

Over two months have passed since we first analyzed the international implications of the disruption of Polish coal exports in a Special Issue of the *Coal Situation*. In that December report, we estimated that the best Poland could accomplish in 1981 was coal exports amounting to 26 million tonnes, or 64 percent of its peak level of trade in 1979. The basic foundation for this forecast was the impact of the work rule changes won by labor in 1980. The possibility of the complete elimination of Poland coal exports existed at the time of that writing because of the threat of a Russian invasion.

While this threat has subsided, the potential for a complete supply cut-off to the international markets has not. What has happened in the last two months to lead to this conclusion is a fuller understanding of the extent of the impacts of the work rule changes.

Poland's government forecasts call for exports of 22 to 24 million tonnes in 1981, only slightly lower than the forecasts made in the December issue of the *Coal Situation*. The Polish government, however, has warned its labor force that a strict adherence to the work rule changes could result in total production of coal falling well below internal needs, thus eliminating any coal exports. At this point, we must assume that there will be a positive response by labor to the government's call for voluntary work on weekends and that exports of slightly less than official government levels can be achieved. The potential for further cutbacks, however, will accentuate the shift in world trading patterns as importers of Polish coal hedge their risks.* Thus there will be continued heavy pressure on other international suppliers to replace Polish coal. Further aggravating the situation are anticipated cutbacks in Russian coal exports.

The ability and/or willingness of the Soviet Union to maintain its level of coal trade, approximately 22 million tonnes in 1980, has been affected by both its reduced imports from Poland and difficulties with its own coal production. In 1980, Soviet imports of Polish coal fell by approximately 3 to 4 million tonnes. Simultaneously, Soviet coal output fell short

*The reader should refer to the December Special Issue of the *Coal Situation* for a breakdown of the countries affected by the Polish coal disruption.

of planned production levels. In fact, Soviet coal output in 1980 was approximately 3 million tonnes lower than the 719 million tonnes produced in 1979. Therefore, the Soviets have been forced to announce cutbacks in 1981 coal exports which will further accentuate the shift in the patterns of coal trade, aggravating the port bottlenecks and difficulties experienced by coal importers in 1980.

Thus, in 1981 and beyond, coal importers are faced with the task of replacing the shortfall in coal supplies from Poland and the Soviet Union while simultaneously meeting additional demands. The alternatives available to accomplish these tasks are limited.

United States

The ability of the international consumer to obtain additional coal supplies from the U.S. is influenced by three factors. First, in response to the heavy interest by the international consumers in 1980, a large number of port improvements or additions have been announced. While not significantly alleviating the existing shipping bottlenecks until 1982 and beyond, the improving facilities on the east coast, increased use of facilities in the Gulf States, and the use of short-term alternative delivery routes such as through the Great Lakes provide some short-term relief.

Second, the anticipated growth in international coal demands is principally in the form of steam coal. In 1981, U.S. exports of metallurgical coal are expected to decline, thus allowing the shipment of additional quantities of steam coal through existing facilities. The expected decline in the U.S. shipments of metallurgical coal is the result of continued softening of demands from the European steel industry and the elimination of the Japanese metallurgical coal demands produced by the now-resolved labor disputes in Australia during 1980.

Finally, offsetting the improvement in U.S. exporting capabilities in 1981 is the potential of a strike when the United Mine Workers contract expires at the end of March. As of this writing, we attach a 50 percent likelihood to a strike lasting one month.

The three considerations cited above lead to a forecast of a very modest rise in U.S. exports in 1981 over 1980. This modest overall growth, however, masks the continuing dramatic increase in steam coal exports, while metallurgical shipments decline. By 1982, U.S. labor stability and further improvements in exporting facilities will provide the ability to respond to increased international market demands.

Australia

Barring a renewal of the labor difficulties experienced in 1980, Australia will see the return of the Japanese metallurgical coal sales lost to the U.S. in the third and fourth quarters of 1980. In addition, there will be a continuation of the expansion of Australian steam coal trade, principally in response to the growth in the Japanese and Asian markets, but also in response to the Polish and Russian situations. This trend is expected to be carried over into 1982 and beyond.

As far as Australian port facilities are concerned, the situation differs slightly from that in the United States. Existing loading and shipping capabilities are adequate to meet the tonnage requirements for 1981 and 1982. The surge in Australian exports, however, will force higher utilization of ports that will result in the development of short-term bottlenecks and ship delays. The delays, however, will not be nearly as severe as those experienced in the U.S.

Other Exporting Countries

As for the remaining coal exporting countries of the world, generally speaking, the international coal importer, although able to acquire additional quantities, will find it difficult to obtain significant increases in 1981 and 1982. The most notable exception to this situation will be the United Kingdom.

In the U.K., recession and increased imports of cheaper coal have resulted in excess coal production by the National Coal Board mines. This situation has been further exaggerated by labor's ability to get management to capitulate on plans to close a number of mines. The need to replace Polish and Russian coal supplies by continental Europe, coupled with the high demurrage charges for U.S. supplies, provide the opportunity for the U.K. to export a portion of their excess production. The key to the Coal Board's ability to tap this opportunity rests with the price it is willing to accept for the coal. Currently, imported coal from the U.S., including demurrage, is cheaper than the cost of British coal at the colliery.

Short-Term Trade Forecast

The estimated level of hard coal trade in 1979 and 1980 and the forecasted levels of trade in 1981 and 1982 are shown in Table 1. There are three key points to be noted in these forecasts.

First, as stated previously, the significant cutback in Polish and Russian exports produces a shift in trading patterns to other areas of the world. Based on total exports, the most significant increase in volume

terms comes from Australia with 1981 exports increasing by over 8 million tonnes above estimated 1980 levels. The United States exhibits only moderate growth in 1981 over 1980 exports. As mentioned above, this trend, however, masks the changes in the type of coal exported.

Second, steam coal exports in 1981 will continue to exhibit the effects of the world's movement back to coal as a primary energy source. In the case of metallurgical coal, the recessionary impacts on the Western European steel industry and economic difficulties in Eastern Europe will result in a decline in metallurgical coal trade in 1981 relative to 1980. The net effect will be a very modest increase in total trade in 1981.

The final point to be drawn from the forecasts shown in Table 1 is that improving economic activity and the continued emphasis on coal as a primary energy source by the oil-dependent, coal-resource-poor areas of the world should produce an acceleration in coal trade between 1981 and 1982, a trend that is expected to continue throughout the decade.

The next issue of *Coal Situation* will examine in greater detail the longer term outlook for world coal trade. Special emphasis will be paid to the question of the major exporting countries' ability to develop on a timely basis the necessary transportation infrastructure needed to meet the world's growing appetite for coal.

Vincent J. Calarco, Jr.

TABLE 1
WORLD HARD COAL TRADE
(Million Metric Tons)

	MET COAL				STEAM COAL				TOTAL			
	1979(E)	1980(E)	1981	1982	1979(E)	1980(E)	1981	1982	1979	1980(E)	1981	1982
EXPORTER												
U.S.	46.0	57.1	49.0	52.4	13.9	26.4	36.5	40.3	59.9	83.5	85.5	92.7
AUSTRALIA	34.7	35.1	40.0	44.0	5.7	7.0	10.6	14.5	40.4	42.1	50.6	58.5
SOUTH AFRICA	2.0	2.0	2.0	2.0	21.4	24.0	24.5	24.9	23.4	26.0	26.5	26.9
W. GERMANY	8.6	7.5	8.0	9.0	6.7	6.5	7.4	7.0	15.3	14.0	15.4	16.0
CANADA	12.5	13.0	13.5	13.8	1.4	1.5	1.9	2.2	13.9	14.5	15.4	16.0
OTHER	4.3	4.7	5.0	5.4	6.4	6.8	9.9	10.4	10.7	11.5	14.9	15.8
SUB-TOTAL	108.1	119.4	117.5	126.6	55.5	72.2	90.8	99.3	163.6	191.6	208.3	225.9
POLAND	8.4	6.4	5.4	5.4	32.9	24.9	15.0	21.0	41.3	31.3	20.4	26.4
USSR	10.8	9.3	8.3	8.3	13.1	12.3	10.3	10.3	23.9	21.6	18.6	18.6
TOTAL	127.3	135.1	131.2	140.3	101.5	109.4	116.1	130.6	228.8	244.5	247.3	270.9
IMPORTERS												
N. AMERICA	6.9	5.9	6.0	6.9	12.6	11.8	12.7	12.7	19.5	17.7	18.7	19.6
LATIN AMERICA	5.7	6.1	6.6	7.2	0.6	1.0	1.3	1.5	6.3	7.1	7.9	8.7
EEC	29.5	30.6	27.0	30.2	48.5	54.4	56.5	58.2	78.0	85.0	83.5	88.4
OTHER W. EUROPE	11.0	11.1	10.5	11.5	8.5	8.6	9.8	10.0	19.5	19.7	20.3	21.5
EAST EUROPE	12.0	12.5	11.9	12.9	20.5	17.6	15.2	22.1	32.5	30.1	27.1	35.0
JAPAN	55.6	62.1	62.0	64.0	2.3	6.5	10.3	15.2	57.9	68.6	72.3	79.2
OTHER	6.6	6.8	7.2	7.6	8.5	9.5	10.3	10.9	15.1	16.3	17.5	18.5
TOTAL	127.3	135.1	131.2	140.3	101.5	109.4	116.1	130.6	228.8	244.5	247.3	270.9

(E) Estimated

UNITED STATES COAL BALANCES

	JULY THRU SEPT			JAN THRU SEPT		
	1980	1979	CHANGE	1980	1979	CHANGE
	Million Short Tons		–%–	Million Short Tons		–%–
Consumption						
Electric Utilities	154.71	138.93	11.36	427.26	394.02	8.44
Coking Plants	14.58	19.26	–24.30	51.06	58.39	–12.55
General Industry	14.90*	15.75	– 5.40	46.11**	49.44	– 6.74
Retail Deliveries	1.55*	1.43	8.39	5.19**	5.69	– 8.79
Total Domestic Demand	185.73*	175.37	5.91	529.60**	507.55	4.34
Exports	25.88	17.69	46.30	65.07	46.12	41.09
Total Demand	211.62*	193.06	9.61	594.68**	553.67	7.41
Supply						
Domestic Production	209.15	189.80	10.19	625.56	573.30	9.12
Imports	0.20	0.59	–66.10	0.98	1.63	–39.88
Total New Supply	209.35	190.39	9.96	626.54	574.94	8.97
Stock Change	– 2.27	– 2.67	–	31.86	21.27	–

Totals may not add due to rounding
*Estimated
**Revised April-June 1980

Sources: U.S. Department of Energy
National Coal Association
Chase Manhattan Bank

EUROPEAN ECONOMIC COMMUNITY COAL BALANCES – HARD COAL

	JULY THRU SEPT			JAN THRU SEPT		
	1980	1979	CHANGE	1980	1979	CHANGE
	Million Short Tons		–%–	Million Short Tons		–%–
Deliveries to:						
Electric Utilities	46.18	44.40	4.01	145.19	132.10	9.91
Coke Plants	24.56	23.46	4.69	73.55	71.32	3.13
General Industry	5.99	5.71	4.90	18.28	18.28	0.00
Retail Deliveries	4.35	4.70	–7.45	14.65	15.95	–8.15
Total Domestic Demand	81.08	78.26	3.60	251.68	237.63	5.91
Exports	0.11	0.35	–68.57	0.70	1.62	–56.79
Total Demand	81.19	78.61	3.28	252.37	239.27	5.47
Supply						
Domestic Production	62.07	60.00	3.45	201.87	195.24	3.40
Imports – (Third Party Countries)	21.45	16.79	27.75	61.43	45.31	35.58
Total New Supply	83.52	76.79	8.76	263.31	240.56	9.46
Stock Change	2.33	–1.82	–	10.93	1.29	–

Totals may not add due to rounding
* Estimated

Sources: Eurotstat
Chase Manhattan Bank

The Coal Situation

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WORLD COAL TRADE - LONG-TERM OUTLOOK

Labor disputes that interrupt the free flow of coal supplies, inadequate port facilities that limit export capabilities and make transportation inefficient and costly, and of course the continuing concern over the environmental consequences of increased coal burning: these are familiar coal-related topics widely seen in the media today. When added to the anticipation of reduced growth in world economic activity, consumer emphasis on energy conservation through efficiency of energy use, and the emergence of an "oil glut," the result is an increasingly uncertain outlook for world coal trade. This is particularly critical to those firms that are contemplating or have already committed significant investments in the export markets for coal. Whether one is a coal producer, shipper, or trader, the uncertainties caused by these conditions raise concern about the future levels of international coal demands and about the trading patterns necessary to satisfy these demands. This issue of the *Coal Situation* provides an assessment of the long-term outlook for coal trade in the context of the uncertainties facing the marketplace.

As will be shown, coal trade is anticipated to reach over 455 million tonnes per year by 1990, essentially double the amount traded in 1979. While changes in the historical pattern of trade will emerge, the international scene will continue to be dominated by supplies originating in the United States, South Africa, Australia, and Canada. Over the decade, the coal industries of these nations are expected to satisfy almost 83 percent of the forecasted incremental coal trade.

World Energy Demand and Coal

Through the 1980s, the growth in world energy demand will continue to reflect the significant divergence from historical rates that began in 1973-74. As shown in Table 1, total world primary energy demand from 1980 through 1990 is expected to increase at an average compound growth rate of 2.7 percent per year, reaching 375 quadrillion BTUs per year by 1990.

According to United Nations statistics, between 1963 and 1973 the world economies were increasing their consumption of energy at an average compound growth rate of 5.4 percent per year. Led by oil, the explosion in energy prices beginning in 1973-74 cut this rate of expansion in energy usage in half, to an average rate of 2.6 percent per year during the period 1973 to 1979. In response to significantly higher prices for energy, this slowing of the world's growth rate in energy usage was caused by the significant slowing in the growth of worldwide economic activity and increased emphasis on energy conservation. "Conservation" is defined here to be mean efficient energy usage such as the substitution of small, high-mileage automobiles for "gas guzzlers." Since 1973, slowed growth in economic activity has been the dominant reason for the decline in the rate of growth in energy consumption, but the impact of energy conservation is growing, and is expected to be the major influence in establishing the pattern of energy usage in the 1980s. This is particularly true given the impact of the second OPEC price explosion in 1979/80.

While we expect the next year or two to be a period of recovery for world economies, the rate of growth in industrial activity over the decade will be lower than that experienced during the "cheap energy" era of the fifties and sixties. Together, lower economic growth and energy conservation produce a pattern of growth in energy demands shown in the regional breakdown of energy consumption in Table 1.

TABLE 1
WORLD TOTAL PRIMARY ENERGY DEMAND 1980-1990
(10^{15} BTU/Yr.)

	1980	1985	1990	GROWTH RATE 1980-1990 %/YEAR
Developed Market Economies	158.8	175.1	190.4	1.8
Less-Developed Economies	38.6	49.1	62.1	4.9
Centrally Planned Economies	89.6	105.6	122.5	3.2
TOTAL	287.0	329.8	375.0	2.7

As shown, the developed market economies exhibit the lowest rate of expansion in energy needs. In contrast, the less-developed market economies and the centrally planned economies exhibit significantly higher energy growth rates. In total coal will have to compete to capture its share of a total energy demand that will be expanding at a slower rate than in the past. Consequently, the rate of expansion in the use of coal will be slowed also. The most significant impacts will be felt in the metallurgical coal sector, where lower growth in steel output will affect the quantity of coal needed to produce coke for the blast furnace. Lower economic activity and greater energy conservation will affect other coal markets. For instance, the slowing in the rate of growth in electricity consumption in the United States, from historical rates of 6% to 7% per year to 3% per year or less, will result in slower growth in coal requirements to fire boilers.

While the world coal industry will experience the impacts of more slowly expanding energy demands in specific market sectors, the market for coal overall will be expanding at a rate greater than the total growth in energy demands, as shown in Table 2. This also holds for all other energy forms, with the exception of oil. This has occurred because the high social, political, and economic costs of oil will lead to a shift away from oil and to an emphasis on alternative energy sources to meet future needs. This shift is expected to more than offset the decline in total energy consumption growth rates.

TABLE 2
WORLD PRIMARY ENERGY DEMAND
(10^5 BTU)

	1980	1985	1990	GROWTH RATE 1980-1990 %/YEAR
Oil	130.7	137.2	140.8	0.7
Gas	55.2	65.6	74.8	3.1
Coal	77.6	94.8	116.6	4.2
Nuclear	7.0	12.4	18.2	10.0
Other	16.5	19.8	24.6	4.1
TOTAL	287.0	329.8	375.0	2.7

The overall energy balance shown in Table 2 reflects our belief that throughout the eighties oil prices will continue to be under the influence of OPEC. Through the decade we expect to see oil price increases roughly averaging 3 percent per year above inflation. Some analysts believe that the combination of lower energy demand and increased supplies of alternative energy, including oil from non-OPEC producers, finally has broken the back of OPEC, and that price will stabilize. We think that, while the back is strained, it certainly is not broken. Continued world requirements of Persian Gulf oil, albeit at lower levels, along with the area's high political volatility lead to the conclusion that the cycle of supply disruption and massive price increases followed by an oil glut and stable prices we have seen occur twice in the last eight years is a pattern that could well continue in the 1980s. Alternately, even without such OPEC supply interruptions, we expect a Saudi-type long-term pricing strategy to be approved by OPEC in December, 1981. Such a strategy could lead to a roughly 3 percent per year increase in real OPEC prices.

The coal demand indicated in Table 2 suggests that the world coal industry will be required to produce over 5.6 billion metric tonnes of coal in 1990, almost 2 billion tonnes above actual 1979 production levels. While the production of coal will continue to be geared predominantly to domestic consumption, international trade will represent a growing proportion of the world's output of coal. The increase in trade occurs as oil-dependent, coal-resource-poor areas of the world diversify their energy supply away from oil. Table 3 shows a regional breakdown of coal import needs.

In 1990, coal imports are expected to reach 455.4 million tonnes, an increase of 226.6 million tonnes over actual trade in 1979. Western Europe, with incremental needs growing by 102.1 million tonnes, and Japan, up 61.6 million tonnes, make up 72 percent of the increase. The total growth in coal trade is dominated by the expansion in steam coal usage as the world replaces oil in electric power generation and industrial heat applications. Although metallurgical coal trade increases in absolute terms over the decade, sluggish expansion of the world steel industry produces a decline in its overall share of trade.

TABLE 3
WORLD COAL IMPORTS
(Million Metric Tons)

	1979	1990	Absolute Change
Importers			
North America	19.5	22.9	3.4
Latin America	6.3	22.7	16.4
Western Europe	97.5	200.0	102.5
Eastern Europe	32.5	39.9	7.4
Japan	57.9	122.5	64.6
Other	15.1	46.4	31.3
TOTAL	228.8	455.4	225.6
Percent of Total			
Steam Coal	44.4	59.8	
Metallurgical Coal	55.6	40.2	

In satisfying their needs for coal, the importing countries of the world will find a limited choice of alternative sources of supply. In 1979, 95 percent of coal entering international trade was supplied by seven countries—Australia, the United States, Canada, South Africa, West Germany, Poland, and the Soviet Union. Only four, Australia, the United States, Canada, and South Africa, possess the capabilities to make significant contributions to satisfying the level of coal trade needed by 1990. While the Soviet Union and Poland will continue to make a major contribution to the international markets, domestic requirements will limit their ability to expand. Moreover, the quantities of coal available for cross-border trade by these two members of the Communist community will shift increasingly toward trading partners in the COMECON organization, and away from the West.

West Germany, saddled by high mining costs and restricted ability to expand, will be limited to roughly the current level of exports, with the vast majority of these supplies remaining within the Western European region and more specifically assigned to trade with its European Economic Community partners.

As far as new entrants into the international arena are concerned, only two nations, Colombia and the People's Republic of China, have the potential to become major coal suppliers. The international community will see the entry of Colombian coal supplies during the period 1984-1987. The magnitude of Colombia's exports will be subject to the successful implemention of the country's massive plans for developing the Cerrejon coal deposits. As for China, significant contribution to meeting the international need for coal will be limited to the latter half of the decade, following massive improvements in transportation capabilities within the country and modernization of its mining industry.

International Coal Market Competition

In the competition to capture a share of the growing opportunities in coal trade, each of the four major suppliers have certain strengths and weaknesses. The United States possesses the largest known deposits of recoverable coal resources in the world, the largest coal-producing industry in the world, relatively the least restrictive environment for entry into all aspects of the coal supply business, and in general one of the safest investment environments in the world today. Together, these characteristics provided the United States coal industry with the ability to respond to international coal requirements to the tune of 83 million tonnes in 1980, 23 million tonnes greater than the level of U.S. coal exports in 1979. No other producing nation of the world possessed the capability to respond in such a short period of time to such a major

increase in market requirements. But while proving its strength, the experience of 1980 emphasized some weaknesses in the U.S. coal industry, particularly transportation. Clearly indicated was the need for modernization and expansion of U.S. port facilities. But this is a need common to all major competitors in the international market. Moreover, freedom of entry into all phases of the coal exporting business in the U.S. provides the ability to expand port facilities relatively quickly and therefore ease the restrictions on the physical export of additional quantities of coal. In fact, the combination of freedom of entry and the promise of future rewards have changed a concern over the lack of port facilities to a concern of overcapacity in the 1980s.

While the United States will undoubtedly have in place the port infrastructure required to serve a growing international market, the physical ability to deliver coal does not overcome the competitive disadvantage of the high costs of delivering U.S. coal to the pier, and then from the pier to the consumer. Dredging of harbors to allow the loading of larger vessels holds the promise of improving ocean freight rates. Improvement in the economics of transporting coal to the pier, however, is less promising. Alternatives such as river barge delivery to the Gulf Coast, while cheaper than rail, increase the distance of ocean vessel travel to the consumer, thus offsetting some of the benefits. Other weaknesses tied to U.S. coal exports, as viewed by the consumer, are the uncertainties of labor stability and, in general, higher mining costs.

Australia's major strengths in the international coal markets rest on abundant coal resources, government and coal industry dedication to the international market, and the country's physical proximity to the Asian markets. Counterbalancing these strengths are greater government involvement in the project-approval process and the "tyranny of distance" the country faces in competing for the European market segment. Also, like the United States, Australia is perceived to possess poor labor-management relations. While strikes are a reality in Australia, they tend to be more frequent and of shorter duration than those experienced in the U.S. Australia also faces the need to expand port facilities if it is to capture its market potential in the 1980s. Unlike the U.S., the Australian government is more heavily involved in the approval, development and operation of export facilities. To date, the government has indicated its commitment to the development of additional coal exporting facilities, including the dredging of harbors to allow for more economical transportation to the consumer.

The joint development by government and industry of the Richards Bay coal port and the associated rail facilities have made South Africa a major force in international coal markets. Through 1980, South Africa has proven itself to be a highly reliable, extremely competitive source of coal, a situation expected to continue through the 1980s. Obviously, however, the political uncertainties associated with apartheid rule create an aura of risk that influences the consumer's coal procurement strategies.

Perhaps of even greater influence on the level of South Africa's participation in international coal markets is the government control over exports. South African energy policy places great emphasis on assuring adequate availability of energy to meet future domestic needs. As such, coal exports are controlled through export licenses. Additional exports are allowed only after the government assures itself that resources are adequate to satisfy domestic requirements. Licenses have been approved that would allow the expansion of coal exports in 1985 to 44 million tonnes from the currently approved level of 26-28 million tonnes. Simultaneously, the government has approved and is participating in a Phase III expansion of Richards Bay and rail line improvements that together would provide the physical means to ship the approved export levels. Beyond 1985, export licenses will be granted consistent with the domestic resource situation. A recently completed assessment of coal resources within South Africa has resulted in a doubling of known coal deposits in the country. Therefore there is a high probability that additional exports will be allowed. Unofficial indications are that licenses will be granted for exports of up to 65 to 75 million tonnes by 1988-90, with additional expansion thereafter.

Offsetting these competitive advantages in terms of export coal-related availability, South African mining and infrastructure costs will increase significantly throughout this period. Therefore, the price-related advantages South Africa possessed in the late 1970s will be diminishing.

Of the four major traditional international coal suppliers holding the potential for making a major contribution to satisfying the world coal trade requirements, Canada ranks fourth. As in Australia, coal production in Western Canada (British Columbia and Alberta) is well located to take advantage of the anticipated growth in coal demands in the Pacific Basin, but suffers from a transportion-cost disadvantage relative to the European market. In addition, Canadian mining costs are relatively high, and massive initial infrastructure investment, particularly for rail transportation, is required if coal is to be moved to export market. While additional expansion and use of the transportation network would improve shipping exonomics over time, the initial suppliers are in the difficult position of negotiating with the provincial and federal governments for recognition of the importance of such an expansion.

Future Pattern of Coal Trade

As outlined above, relying on any one of the traditional major international suppliers of coal would involve certain risks and uncertainties, be they the result of labor, politics, or economics. This leads to a conclusion that importers in the 1980s will continue to engage in a risk management strategy of coal procurement that will require diversity in sourcing of coal supplies. As a result, all suppliers will benefit from the growing international demand for coal. The greatest benefits, however, will accrue to those areas perceived to possess the greatest security/economic advantages. Our assessment of the result of such considerations is shown in Table 4 below.

TABLE 4

WORLD COAL EXPORTS 1979-1990

(Million Metric Tonnes)

	1979	1990	Incremental Expansion	
			TONNAGE	% OF TOTAL
United States	59.9	126.6	66.7	29.6
Canada	13.9	27.2	13.3	5.9
Western Europe	19.8	20.6	0.8	0.4
South Africa	23.4	68.1	44.7	19.8
Australia	40.3	105.5	65.2	28.9
Other	0.8	23.7	22.9	10.2
SUB TOTAL	158.1	371.7	213.4	94.7
Communist Bloc	70.9	82.6	11.7	5.2
TOTAL	229.0	454.4	225.4	100.0

Throughout the decade, the United States and Australia are expected to obtain the greatest share of the growth in international coal trade, capturing 29.6 percent and 28.9 percent respectively of the incremental expansion of coal trade. Of the major suppliers, South Africa ranks third, with incremental trade growing by almost 44 million tonnes between 1979 and 1990. South Africa's share of trade is only limited by the greater control and more deliberate planning concerning allowable exports exerted by its government. In total, the four major international suppliers are expected to capture almost 83 percent of the incremental growth of total coal trade. Expansion by new entrants, principally Colombia and the People's Republic of China, represent the majority of the remaining 17 percent.

UNITED STATES COAL BALANCES

	----OCT. THRU DEC.----			----CALENDAR YR.----		
	1980	1979	CHANGE	1980	1979	CHANGE
	Million Short Tons		-%-	Million Short Tons		-%-
Consumption						
Electric Utilities	141.95	133.03	6.71	569.28	527.05	8.01
Coking Plants	15.61	18.97	-17.71	66.67	77.36	-13.82
General Industry	18.13	18.28	- 0.82	62.51	67.72	- 7.69
Retail Deliveries	2.90	2.71	7.01	7.59	8.40	- 9.64
Total Domestic Demand	178.58	172.98	3.24	706.03	680.53	3.75
Exports	226.67	19.90	34.02	91.74	66.05	38.82
Total Demand	205.24	192.87	6.41	797.69	746.54	6.85
Supply						
Domestic Production	214.64	207.83	3.28	835.40	781.13	6.95
Imports	0.21	0.43	-51.16	1.19	2.06	-42.23
Total New Supply	214.85	208.26	3.16	836.59	783.20	6.82
Stock Change	9.61	15.39	–	38.90	36.66	–

Totals may not add due to rounding

Sources: U.S. Department of Energy
National Coal Association
Chase Manhattan Bank

EUROPEAN ECONOMIC COMMUNITY COAL BALANCES – HARD COAL

	----OCT. THRU DEC.----			----CALENDAR YR.----		
	1980	1979	CHANGE	1980	1979	CHANGE
	Million Short Tons		-%-	Million Short Tons		-%-
Deliveries to:						
Electric Utilities	51.89	51.27	1.21	197.45	183.37	7.68
Coke Plants	23.31	25.27	- 7.76	96.86	96.59	0.28
General Industry	7.09	6.75	5.04	25.36	25.03	1.32
Retail Deliveries	5.46	5.95	- 8.24	19.66	21.90	-10.23
Total Domestic Demand	87.74	89.24	- 1.68	339.33	326.87	3.81
Exports	0.25	0.35	-28.52	0.95	1.97	-51.78
Total Demand	88.00	89.60	- 1.79	340.27	328.87	3.47
Supply						
Domestic Production	70.52	67.86	3.92	272.01	263.10	3.39
Imports (Third-Party Countries)	19.07	19.89	- 4.12	80.65	65.20	23.70
Total New Supply	89.59	87.75	2.10	352.66	328.31	7.42
Stock Change	1.59	-1.85	–	12.37	- 0.56	–

Totals may not add due to rounding

Sources: Eurostat
Chase Manhattan Bank